VOLUME 35 (1990)

CONTENTS

JANUARY

	i ISE pages	
Review Article R. D. Armstrong and G. Horvai	1	Properties of PVC based membranes used in ion-selective electrodes
J. Crousier, Y. Massiani and F. Belluci	9	Water content affecting the passivation of nickel in water–methanol solutions
J. Vondrák, J. Bludská, V. N. Belan, V. B. Lazarev and Yu. E. Bogatov	17	The electrochemical insertion of alkali metals in transition metal monoxides
F. Decker, M. Fracastoro-Decker, N. Cella and H. Vargas	25	Acoustic detection of the electrochemical Peltier effect
G. Inzelt and G. Horányi	27	Some problems connected with the study and evaluation of the effect of pH and electrolyte concentration on the behaviour of polyaniline film electrodes
A. M. Riley and J. M. Sykes	35	The active–passive transition in low alloy steels in carbonate solutions
M. J. Peña, I. Alarcón and V. López	47	Electrochemical study of Cu(II)–cysteine complexes in aqueous solution
J. A. Jaén, M. L. Varsányi, H. Csontos and A. Vértes	55	Mössbauer and X-ray fluorescence studies of tin–nickel electrodeposited alloys
Lj. Tušek-Božić and B. Božić	59	Conductance study of ion-pairing of potassium monoethyl benzeneazophosphonates and their macrocyclic polyether complexes in acetonitrile
T. Ohsaka, M. Nakanishi, O. Hatozaki and N. Oyama	63	Electrode kinetics of thin polymer complex films composed of poly(alkyleneviologen) and poly(*p*-styrenesulfonic acid)
M. Sakaguchi, K. Uematsu, A. Sakata and M. Sato	65	Electrocatalytic activity and oxygen adsorption property of perovskite-type oxides, $LnMnO_3$ (Ln: rare earth)
N. B. De Cristofaro, D. Huerta and K. E. Heusler	69	An ellipsometric study of the anodic passivation of iron–nickel alloys in acid solution
J. J. Rosenberg, A. Benchettara, A. Nouacer and J. Estienne	77	Total electrical conductivity of double salts of the type silver iodide–poly(*N*-alkylene dimethyl-*N*,*N*′-piperazinium diiodide)
F. Maran, S. Roffia, M. Gabriella Severin and E. Vianello	81	Study on a proton transfer reaction between electrogenerated carbon bases and parent nitrogen acids
L. R. Simonsen and F. M. Donahue	89	Determination of chloride ion diffusion coefficients for zinc dissolution in a low temperature molten salt
H. Scholl and K. Sochaj	93	Cyclic voltammetry of some oxa- and tia-ferrocenephanes in the mixed methanol–water solvents—III
J. Galvez, F. Robles, J. Zapata and Su-Moon Park	95	Analysis of the chronopotentiometric response of the EC mechanism
F. Di Quarto, S. Piazza and C. Sunseri	99	Amorphous semiconductor–electrolyte junction. Impedance study on the a-Nb_2O_5–electrolyte junction
J. J. J. Chen and M. P. Taylor	109	The current efficiency model of Lillebuen *et al.* for aluminium electrolysis
G. Horányi and E. M. Rizmayer	111	Radiotracer study of the adsorption of ethylenediamine at a platinized platinum electrode

M. E. Vela, R. C. Salvarezza and A. J. Arvia	117	The electroreduction kinetics of the hydrous gold oxide layers and growth modes and roughness of the electroreduced gold overlayers
M. Senō, K. Iwamoto and Qi-zhu Chen	127	Kinetic study of ion transport facilitated by crown ethers across water–nitrobenzene interface
F. T. A. Vork and E. Barendrecht	135	The reduction of dioxygen at polypyrrole-modified electrodes with incorporated Pt particles
A. Maritan and F. Toigo	141	On skewed arc plots of impedance of electrodes with an irreversible electrode process
A. Cyr. P. Huot, G. Belot and J. Lessard	147	The efficient electrochemical reduction of nitrobenzene and azoxybenzene to aniline in neutral and basic aqueous methanolic solutions at Devarda copper and Raney nickel electrodes: Electrocatalytic hydrogenolysis of N–O and N–N bonds
D. Devilliers, B. Teisseyre and M. Chemla	153	Electrolytic generation of fluorine with KF–2HF melts containing AlF_3 or LiF
H. Worch and W. Forker	163	The influence of the surface structure on the mechanism of the active dissolution of iron
Chubao Huang and Xiaodong Liu	173	On the behavior of CoTSPc as electro-catalyst for oxygen reduction in DMF solutions
A. Manjaoui, J. Haladjian and P. Bianco	177	Electrochemical properties of pyrolytic graphite electrodes modified through adsorbed proteins
H. Yabe, K. Ema and Y. Ito	187	The effect of silver ion on electrodeposition of tungsten and tungsten carbide from molten chloride
B. Podlovchenko, G. Shterev, R. Semkova and E. Kolyadko	191	Peculiarities of the electrocatalytic properties of surface skeleton iridium electrodes
J. B. Goodenough, A. Hamnett, B. J. Kennedy, R. Manoharan and S. A. Weeks	199	Porous carbon anodes for the direct methanol fuel cell—I. The role of the reduction method for carbon supported platinum electrodes
L. Galicia, I. Gonzalez, Y. Meas and J. G. Ibañez	209	Pourbaix-type diagram of Fe(III) and Fe(II) phenanthroline complexes
C. I. Elsner, C. L. Perdriel, S. L. Marchiano and A. J. Arvia	215	Modelling of pulsating diffusional boundary layers—II. A reversible redox electrochemical reaction involving soluble species in solution. Theory and experimental test
J. Gunić, I. Tabaković and Ž. Saničanin	225	Electrochemical synthesis of heterocyclic compounds—XX. Anodic synthesis of *N*-heterocycles with organic mediators
S. Laihonen, T. Laitinen, G. Sundholm and A. Yli-Pentti	229	The anodic behaviour of Sb and Pb–Sb eutectic in sulphuric acid solutions
T. Fuchigami, K. Suzuki and T. Nonaka	239	Electrogenerated triphenylmethyl anion species—a highly useful base for selective organic synthesis
P. Podhájecký, Z. Zábranský, P. Novák, Z. Dobiášová, R. Černý and V. Valvoda	245	Relation between crystallographic microstructure and electrochemical properties of CuO for lithium cells
C. Arbizzani and M. Mastragostino	251	Polybithiophene as positive electrode in solid-state polyethylene oxide–$LiClO_4$ lithium rechargeable battery
M. Hishinuma, T. Iwahori, H. Sugimoto, H. Sukawa, T. Tanaka, T. Yamamoto, Y. Yanagisawa, Y. Yoda and S. Yoshida	255	Zinc–iodine secondary cell using 6-nylon or poly(ether) based electrode. Basic research for industrial use of the secondary cell
S. Ardizzone, G. Fregonara and S. Trasatti	263	"Inner" and "outer" active surface of RuO_2 electrodes
S. Trasatti	269	The "absolute" electrode potential—the end of the story
R. Abdelhedi et M. L. Bouguerra	273	Passivation d'électrodes de platine et d'or lors de l'oxydation électrochimique indirecte du xylène

J.-PH. PETITPIERRE, CH. COMNINELLIS et E. PLATTNER — 281 — Oxydation du $MnSO_4$ en dioxyde de manganèse dans H_2SO_4 30%

Short Communications

R. C. SALVAREZZA, A. J. ARVIA and A. MILCHEV — 289 — Spatial distribution of pits on stainless steel

M. KANEKO, T. OKADA, H. MINOURA, T. SUGIURA and Y. UENO — 291 — Photochargeable multilayer membrane device composed of CdS film and Prussian Blue battery

K. E. HEUSLER, D. LANDOLT and S. TRASATTI — 295 — Electrochemical Corrosion Nomenclature (IUPAC Recommendations 1988)

Book Review

A. K. COVINGTON — 299 — Computation of solution equilibria—a guide to methods in potentiometry, extraction and spectroscopy by M. MELOUN, J. HAVEL and E. HOGFELDT

301 — List of Review Articles

303 — Electrochemical Calendar

FEBRUARY

i — ISE pages

F. H. BARK — 307 — On steady free convection in a system with a large excess of supporting electrolyte

J. BUKOWSKA and K. JACKOWSKA — 315 — *In situ* Raman studies of polypyrrole formation on a silver electrode

K. OTSUKA and I. YAMANAKA — 319 — One step synthesis of hydrogen peroxide through fuel cell reaction

JUNDONG WANG, H. NAKAJIMA and H. KITA — 323 — Metal electrodes bonded on solid polymer electrolyte membrane (SPE)—VI. Methanol oxidation on molybdenum modified Pt–SPE electrode

S. B. SAIDMAN, E. C. BELLOCQ and J. B. BESSONE — 329 — Stationary and non-stationary electrochemical response of polycrystalline indium in alkaline media

V. TSAKOVA and A. MILCHEV — 339 — Probabilistic aspects of mercury electrodeposition on a platinum single crystal cathode—II

P. HERRASTI, E. FATÁS, J. HERRERO and J. ORTEGA — 345 — Determination of the flat band potential for In_2S_3/electrolyte interfaces

W. GRZYBKOWSKI and M. PILARCZYK — 351 — Conductometric study of some divalent transition metal perchlorates in acetone

H. STEGEMANN, A. SCHNITTKE and H. FÜLLBIER — 355 — Conductivity in dialkylsulphide–iodine mixtures

J. BAGG — 361 — Computer calculation of liquid-junction potentials—I. Concentration profiles at junctions with concentrated KCl

J. BAGG — 367 — Computer calculation of liquid-junction potentials—II. Junction potentials for junctions with concentrated KCl

M. J. F. REBELO — 371 — Liquid–liquid junction potentials between bromide solutions

O. ENEA — 375 — Molecular structure effects in electrocatalysis—II. Oxidation of D-glucose and of linear polyols on Ni electrodes

A. ANASTOPOULOS and M. KAISHEVA — 379 — Adsorption of Tri(n)octylphosphine oxide from methanolic solutions of different supporting electrolyte contents. A statistical estimation of the adsorption parameters

S. TOBISHIMA, M. ARAKAWA and J. YAMAKI — 383 — Ethylene carbonate/linear-structured solvent mixed electrolyte systems for high-rate secondary lithium batteries

A. BOUGHRIET, A. COUMARE and M. WARTEL — 389 — Electrochemical and thermodynamic behaviour of oxygenated nitrogen compounds and aromatic hydrocarbons in nitromethane, and the nitration process with NO_2^+ (solvation phenomena)

B. Kwiatek and M. K. Kalinowski	399	Effect of benzoic acid on the cathodic reduction of aromatic nitro compounds in *N,N*-dimethylformamide
M. Schwarzenberg, K. Jobst, L. Sawtschenko and P. Novák	403	Electrochemical characterization of several conjugated polymers
L. L. Ferry	413	Interfacial chemistry of p-silicon semiconductor liquid junctions
L. L. Ferry	419	An intramolecular probe of reactivity in Nafion
J. Jamnik, M. Gaberšček and S. Pejovnik	423	Interpretation of *ac* impedance spectroscopy of the anodic passive layer in $Li/SOCl_2$ batteries
J. Casado, J. Peral, J. Balué and X. Domenech	427	Photogalvanic behaviour of $K_3Mn(CN)_6$ in CN^- aqueous solutions
T. Yamazaki, T. Kodera, R. Ohnishi and M. Masuda	431	Potential oscillation during anodic oxidation of hydrogen at a platinum electrode—II. Kinetic analysis
M. R. Gennero de Chialvo and A. C. Chialvo	437	Oxygen evolution reaction on electrochemically generated thick cobalt oxide films
P. C. Searson and R. M. Latanision	445	A photoelectrochemical study of the passive film on chromium
Liu Zhaohui and Gu Dengping	451	Electrochemical properties of a periodate complex of Ag(III)
G. Kokkinidis, D. Sazou, E. Hatzigrigoriou and A. Varvoglis	455	Electrochemical reduction of some phenyliodonium ylides
M. Mastragostino and L. Soddu	463	Electrochemical characterization of "N" doped polyheterocyclic conducting polymers—I. Polybithiophene
K. Micka, I. Rousar and V. Papež	467	A model of the polyacetylene electrode: galvanostatic behaviour
M. L. S. Simões Gonçalves, A. C. Lopes da Conceição and J. J. G. Moura	473	Metal ion binding of copper(II), zinc(II) and lead(II) to cytochrome *C*
G. Juhel, B. Beden, C. Lamy, J. M. Leger and R. Vignaud	479	Effect of the surfactant "Forafac" on hydrogen evolution on a zinc electrode
S. L. Marchiano, L. Rebollo Neira and A. J. Arvia	483	Modelling of pulsating diffusional boundary layers—I. A reversible metal–metal ion electrochemical reaction under symmetric square wave perturbing potentials at a plane electrode
C. Alonso, R. C. Salvarezza, J. M. Vara and A. J. Arvia	489	The mechanism of silver(I) oxide formation on polycrystalline silver in alkaline solution. Determination of nucleation and growth rates
J. A. Caram, M. E. Martins, E. G. Gros and C. M. Marschoff	497	On the anodic polarization of limonene in Br^- containing acetonitrile solutions on platinum electrodes
E. Ahlberg and M. Friel	501	The anodic dissolution of iron microelectrodes in acidic water–acetonitrile solutions
M. Salomon	509	Complexation of silver salts in pyridine
A. Pirnát, L. Mészáros and B. Lengyel	515	Study of the formation of chromate layer on zinc by impedance technique
T. Yamazaki and M. Enyo	523	Deposition of sodium on silver electrode in aqueous sodium hydroxide: influence on the hydrogen evolution reaction
M. V. Smirnov and V. M. Ivenko	529	Saturation vapour pressure and thermodynamic properties of potassium solutions in molten binary mixtures of its halides
K. E. Heusler and A. Grzegorzewski	539	The mechanism of the manganese dioxide electrode
A. M. Gabovich and A. I. Voitenko	545	Surface tension at the electrolyte solution–metal electrode interface—III. Polyvalent and non-symmetrical electrolytes
N. Pebere, C. Riera and F. Dabosi	555	Investigation of magnesium corrosion in aerated sodium sulfate solution by electrochemical impedance spectroscopy

J. C. Le Menn, J. Sarrazin and A. Tallec — 563 Cyclocondensation reactions from electrogenerated halomalonate carbanions—compared reactivity of bromo and chloro anions and influence of the supporting-electrolyte cation

F. T. A. Vork, B. C. A. M. Schuermans and E. Barendrecht — 567 Influence of inserted anions on the properties of polypyrrole

H. N. Cong, A. Sehili, J. M. Paulus and P. Chartier — 577 A ^{109}Cd radioisotopic study of the electrodeposition of cadmium on lead in sulphuric solutions

585 Corrigendum

587 Electrochemical Calendar

MARCH

i ISE Pages

A. Czerwiński, S. Zamponi, J. Sobkowski and R. Marassi — 591 Adsorption of 4,4′-bipyridyl on gold

J. Gómez Becerra, R. Salvarezza and A. J. Arvia — 595 Kinetic study of silver (I) oxide layer electroreduction

J. O. Zerbino, S. B. Saidman, J. R. Vilche and A. J. Arvia — 605 Ellipsometric changes produced by oxidation–reduction potential cycles applied to cadmium in sodium hydroxide solutions

R. Holze and S. Schomaker — 613 New results on the electrosorption of urea and thiourea on gold electrodes

K. Scott, A. P. Colbourne and S. D. Perry — 621 A study of glyoxylic acid synthesis in an undivided cell

D. Aurbach, O. Youngman, Y. Gofer and A. Meitav — 625 The electrochemical behavior of 1,3-dioxolane–$LiClO_4$ solutions—I. Uncontaminated solutions

D. Aurbach, O. Youngman and P. Dan — 639 The electrochemical behavior of 1,3-dioxolane–$LiClO_4$ solutions—II. Contaminated solutions

K. Zaghib, E. Chainet and B. Nguyen — 657 Potentialities of "Electrolysis aided cementation": $Cu/Zn/SO_4^{2-}$ system

L. Chmurzyński, A. Wawrzynów and Z. Pawlak — 665 Ionic equilibria of pyridine *N*-oxide perchlorates in acetonitrile

M. J. Peña, A. Arevalillo, I. Rucandio and J. S. Jiménez — 673 Complex species of Zn(II) and Cu(II) in Tris buffer solutions—I. Zn(II)

C. Lamy, B. Beden and J. M. Leger — 679 Comments on A. Heinzel *et al.*'s paper on the electrooxidation of methanol and formaldehyde at a platinum electrode: a SEESR study of radical intermediates

A. Heinzel, R. Holze, C. H. Hamann and J. K. Blum — 681 Reply to the comment by Lamy *et al.*

Short Communication
W. A. Bonner — 683 The electrochemical reduction of phenylglyoxylic acid in a magnetic field

Book Review
A. K. Covington — 685 The chemical physics of ion solvation. Studies in physical and theoretical chemistry Vol. 38. Part C. Solvation phenomena in specific physical, chemical and biological systems. Edited by R. R. Doganadze, E. Kalman, A. A. Kornyshev and J. Ulstrup

687 Electrochemical Calendar

APRIL

	i	ISE Pages	
Review Article B. Beden, C. Lamy, N. R. de Tacconi and A. J. Arvia		691	The electrooxidation of CO: a test reaction in electrocatalysis
J. Garrido, V. Compañ, V. M. Aguilella and S. Mafé		705	Thermodynamics of electrokinetic processes—I. Formulations
J. Garrido and V. Compañ		711	Thermodynamics of electrokinetic processes—II. Systems with different kinds of electrodes
V. S. Markin and A. G. Volkov		715	Electrocapillary phenomena at polarizable and reversible interfaces between two immiscible liquids: the generalized electrocapillary equation in Hansen's representation
M. L. Avramov-Ivić, N. A. Anastasijević and R. R. Adžić		725	A study of the oxidation of formaldehyde on Au(332) by rotating disc–ring method
A. H. Arévalo, H. Fernández, J. J. Silber and L. Sereno		731	Preparation and electrochemical behaviour of conducting films of poly(naphthidine) on platinum electrodes
A. H. Arévalo, H. Fernández, J. J. Silber and L. Sereno		741	Mechanism of electropolymerization of 1-naphthylamine in aqueous acid media
R. Haase		749	Balances of thermodynamic quantities in electrochemical systems
J. M. Rodríguez Mellado and R. Marín Galvín		753	Study of the electroreduction of NAD and NADP coenzymes in strongly acidic media
U. Barsch and F. Beck		759	Y–Ba–Cu perovskites as intrinsic electrochemical redox-electrodes
M. A. Biason Gomes and L. O. S. Bulhões		765	Diffusion coefficient of H^+ at Nb_2O_5 layers prepared by thermal oxidation of niobium
C.-P. Maschmeier, J. Krahnstöver, H. Matschiner and U. Hess		769	Electrochemical study of a dimethylamine–CO_2 addition compound—a new electrolyte
S. Wasmus, E. Cattaneo and W. Vielstich		771	Reduction of carbon dioxide to methane and ethene—an on-line MS study with rotating electrodes
J. Tietje-Girault, I. MacInnes, M. Schröder, G. Tennant and H. H. Girault		777	Photopolymerisation of ion-selective membranes onto silicon nitride surfaces for ISFET fabrication
S. K. Ramasesha and K. T. Jacob		785	*Emf* of bielectrolyte solid state cells with different mobile ions in each phase
		791	Corrigendum
		793	List of Review Articles
		795	Electrochemical Calendar

MAY

	i	ISE pages	
M. M. Hefny, W. A. Badawy and S. S. El-Egamy		799	Kinetics of passivation of lead in phosphate solutions
B. Bujoli, M. Jubault, C. Moinet and A. Tallec		805	Electroreduction of 2-benzylthio-6H-1,3-thiazines
G. Horányi, G. Inzelt and P. J. Kulesza		811	Radiotracer study of metal hexacyanometalate films. Sorption of Ca^{2+} ions into cupric hexacyanoferrate films
K. Varga, E. Maleczki, E. Házi and G. Horányi		817	Towards a multipurpose radiotracer method for the investigation of sorption phenomena on constructional material samples

A. Girginov, M. Machkova and S. Ikonopisov — 825 Light emission during the pore-filling of anodic alumina films with strong own galvanoluminosity

K. Hyodo and M. Oomae — 827 Ion selective irreversible electrochemical doping of polyaniline by a polymer electrolyte

Chu-nan Cao — 831 On the impedance plane displays for irreversible electrode reactions based on the stability conditions of the steady-state—I. One state variable besides electrode potential

Chu-nan Cao — 837 On the impedance plane displays for irreversible electrode reactions based on the stability conditions of the steady-state—II. Two state variables besides electrode potential

J. M. Rodríguez Mellado and R. Marín Galvín — 845 Electrochemical study of the dimerization of nicotinamide

H. Nakajima and H. Kita — 849 The role of surface molybdenum species in methanol oxidation on the platinum electrode

I. Montero, J. M. Albella and J. M. Martínez Duart — 855 Reformation processes of the MnO_2–Ta_2O_5–Ta system under galvanostatic conditions

M. A. Slifkin, A. P. Kushelevsky and L. Al-Khalaf — 861 Measurement of relative quantum efficiencies for the relaxation of conductivity of monovalent electrolytes and polyvalent electrolytes using a modulation technique

S. C. Yang, M. B. Cutlip and P. Stonehart — 869 Simulation and optimization of porous gas-diffusion electrodes used in hydrogen/oxygen phosphoric acid fuel cells—I. Application of cathode model simulation and optimization to PAFC cathode development

Z. Q. Tian, Y. Z. Lian and M. Fleischmann — 879 *In-situ* Raman spectroscopic studies on coadsorption of thiourea with anions at silver electrodes

Y. Harima and K. Yamashita — 885 Potential-step chronocoulometric study of a surfactant with a redox center

C. Cartier, A. Tranchant, M. Verdaguer, R. Messina and H. Dexpert — 889 X-ray diffraction and X-ray absorption studies of the structural modifications induced by electrochemical lithium intercalation into V_2O_5

V. E. Kazarinov, V. N. Andreev, M. A. Spytsin and A. V. Shlepakov — 899 Role of anions in the electrochemical transformation processes of polyaniline

P. Pasquier, D. Ferry et G. Picard — 905 Etude thermodynamique et cinétique du système électrochimique Sn(II)/Sn dans l'eutectique LiCl–KCl à 723 K

913 Electrochemical Calendar

JUNE

i ISE Pages

917 List of Review Articles

Review Article
G. Horányi — 919 Adsorption of primary amino compounds at platinum electrodes (a survey of radiotracer studies)

T. Z. Fahidy — 929 The statistical indeterminacy of the magnetic field effect on electrolytic mass transport

Z. H. Gu, A. Olivier and T. Z. Fahidy — 933 The effect of magnetic fields on the anodic dissolution of copper in NaCl–KSCN electrolytes

M. Sato, M. Ohta and M. Sakaguchi — 945 Effect of carbon dioxide on electrochemical stability of gas diffusion electrodes in alkaline solution

J. J. Rosenberg, A. Benchettara, A. Nouacer and J. Estienne — 951 Characterization of the solid electrolyte AgI–poly (*N*-hexylene, *N'*-butylene, *N,N,N',N'*-tetramethyldiammonium diiodide) by X-ray diffraction, Raman light diffusion, differential thermal analysis and conductimetric studies

V. P. Parkhutik, J. M. Albella, Yu. E. Makushok, I. Montero, J. M. Martinez-Duart and V. I. Shershulskii — 955 Study of aluminium anodization in sulphuric and chromic acid solutions—I. Kinetics of growth and composition of oxides

V. P. Parkhutik, V. T. Belov and M. A. Chernyckh — 961 Study of aluminium anodization in sulphuric and chromic acid solutions—II. Oxide morphology and structure

L. D. Burke, J. J. Borodzinski and K. J. O'Dwyer — 967 Multilayer oxide growth on platinum under potential cycling conditions—I. Sulphuric acid solution

L. C. Schumacher, I. B. Holzhueter, I. R. Hill and M. J. Dignam — 975 Semiconducting and electrocatalytic properties of sputtered cobalt oxide films

R. Wang, R. J. Forster, A. Clarke and J. G. Vos — 985 Electrodeposition of silver onto electrodes coated with $[Os(bipy)_2(PVP)_{10}Cl]Cl$

B. Rasch and T. Iwasita — 989 The electrochemical adsorption and oxidation of acetaldehyde on polycrystalline platinum in acidic solution—a SNIFTIRS study

J. Vondrák, I. Jakubec, J. Bludská and V. Skácel — 995 The electrochemical insertion of alkali metals into $YBa_2Cu_3O_{7-\delta}$ superconductor

V. V. Castro-Aleman, M. T. Sanz-Alaejos, J. C. Rodriguez-Placeres and F. J. Garcia-Montelongo — 999 Polarographic study of the complex systems Cu(II)–neutral L-isoleucine and Cu(II)–L-isoleucinate ion

O. E. Barcia and O. R. Mattos — 1003 The role of chloride and sulphate anions in the iron dissolution mechanism studied by impedance measurements

R. Youda, H. Nishihara and K. Aramaki — 1011 SERS and impedance study of the equilibrium between complex formation and adsorption of benzotriazole and 4-hydroxybenzotriazole on a copper electrode in sulphate solutions

A. Zagiel, P. Natishan and E. Gileadi — 1019 Plating on anodized aluminum—II. The effect of the metal, the anion and the aluminum alloy

G. E. Bajars, P. Linhardt and M. W. Breiter — 1031 Impedance and simulation studies of the cell electrode/hydrous antimonic acid/electrode

R. Holze — 1037 The adsorption of *p*-nitroaniline on silver and gold electrodes as studied with surface enhanced Raman spectroscopy (SERS)

U. Rammelt and G. Reinhard — 1045 On the applicability of a constant phase element (CPE) to the estimation of roughness of solid metal electrodes

P. N. Bartlett, L.-Y. Chung and P. Moore — 1051 Conducting polymer films. Attachment of pyrrole groups to azamacrocycles and attempted electrochemical polymerisation of the resulting monomers

Zhe Jin and Shaojun Dong — 1057 Spectroelectrochemical studies of indium hexacyanoferrate film modified electrodes

M. R. Bielefeld, V. A. Cipolla, C. T. Saunders, J. C. Solis, L. A. Davidson, B. Hughes, S. Steubing, G. West, J. West and C. A. Young — 1061 Reaction of tetrahydrofuran with sodium–cesium alloy: a model for lithium electrode surface reactions

Y.-S. Hwang and R. A. Rapp — 1065 Stabilities of reference electrodes in molten Na_2SO_4 at 1200 K

D. J. Blackwood and L. M. Peter — 1073 Potential modulated reflectance spectroscopy of anodic oxide films on titanium

N. Vettorazzi, H. Fernandez, J. J. Silber and L. Sereno — 1081 Electrodimerization of an aromatic amine in a two-phase solvent system

H.-J. Heidrich and L. Müller — 1089 The effect of hydrophobic centres on the electrode surface on overvoltage in electrochemical gas evolution

A. Olexová and Ľ. Treindl — 1095 Electrochemical oscillations on the stationary mercury electrode in bromate solutions

J.-P. Diard, B. LeGorrec et S. Maximovitch — 1099 Etude de l'activation du dégagement d'hydrogène sur électrode d'oxyde de nickel par spectroscopie d'impédance

1109 Electrochemical Calendar

JULY

i ISE pages

D. R. Rosseinsky, P. M. S. Monk and R. A. Hann — 1113 Anion-dependent aqueous electrodeposition of electrochromic 1,1′-bis-cyanophenyl-4,4′-bipyridilium (cyanophenylparaquat) radical cation by cyclic voltammetry and spectroelectrochemical studies

S. Chechirlian, P. Eichner, M. Keddam, H. Takenouti and H. Mazille — 1125 A specific aspect of impedance measurements in low conductivity media. Artefacts and their interpretations

B. Dakova, J.-M. Kauffmann, M. Evers, L. Lamberts and G. J. Patriarche — 1133 Electrochemical behaviour of pharmacologically interesting seleno-organic compounds—I. *N*-alkyl- and *N*-aryl-1,2-benzisoselenazol-3(2H)-one

Yimin Zhu and Shaojun Dong — 1139 Rapid redox reaction of hemoglobin at methylene green modified platinum electrode

M. A. De Paoli, S. Panero, P. Prosperi and B. Scrosati — 1145 Study of the electrochromism of polypyrrole/dodecylsulfate in aqueous solutions

G. Farnia, G. Sandonà, R. Fornasier and F. Marcuzzi — 1149 Electrochemical reduction of carbonyl compounds in aqueous media in the presence of β-cyclodextrin. Reduction of acetophenone and *p*-methoxyacetophenone in alkaline solution

A. Damjanovic and D. B. Sepa — 1157 An analysis of the pH dependence of enthalpies and Gibbs energies of activation for O_2 reduction at Pt electrodes in acid solutions

J. A. Caram, M. E. Martins, E. G. Gros and C. M. Marschoff — 1163 Anodic oxidation of limonene in Br^- containing methanolic solutions

Y. Kunugi, T. Nonaka and Hsien-Ju Tien — 1167 Electroorganic reactions on organic electrodes—XII. Functional group-selective reduction using electrodes coated with LB-films of a quaternary ammonium salt: selective reduction of hydroxyl groups of α-hydroxyaldehydes

T. Wandlowski, V. Mareček and Z. Samec — 1173 Galvani potential scales for water–nitrobenzene and water–1,2-dichloroethane interfaces

A. Delay and P. P. Infelta — 1177 On the impedance of an interface between a Pt electrode and a NaF solution

I. Carelli — 1185 Electrochemical behaviour of 1-methyl-2,4-dicyanopyridinium ion in dipolar aprotic solvents

P. M. Rigano, C. Mayer and T. Chierchie — 1189 Structural investigation of the initial stages of copper electrodeposition on polycrystalline and single crystal palladium electrodes

M. Etman — 1195 Flat-band and photocurrent onset potentials of layered WSe_2 anodes

M. Jafarian et J. Bouteillon — 1201 Etude voltampérométrique du chlorure de cadmium dans l'eutectique LiCl–KCl fondu

1209 Electrochemical Calendar

AUGUST

i ISE Pages

E. Ahlberg and B. Berghult — 1213 Anodic dissolution of lead in perchloric acid solutions. Correction for changes in active surface during potential dynamic sweeps

S. K. Srivastava, B. Roas and K. Jüttner — 1219 Electrochemical investigations on excimer-laser deposited Y–Ba–Cu–O high-temperature-superconductor thin film electrodes

Rongzhong Jiang and Shaojun Dong — 1227 Study on the electrocatalytic reduction of H_2O_2 at iron protoporphyrin modified electrode with a rapid rotation-scan method

H. Yabe, S. Hikino, K. Ema and Y. Ito — 1233 The behavior of tungstate ion in molten chloride

E. J. Vasini and M. C. Giordano — 1237 Surface oxides: carbon containing intermediates at Pt electrodes in relation to the Kolbe reaction

K. Hyodo and M. Omae — 1245 Ion selective electrochemical polymerization of pyrrole and *N*-methylpyrrole in aqueous solution

Y. Choquette, L. Brossard, A. Lasia and H. Ménard — 1251 Investigation of hydrogen evolution on Raney-nickel composite-coated electrodes

R. Herr — 1257 Organic electrolytes for lithium cells

J. E. A. M. van den Meerakker — 1267 The reduction of hydrogen peroxide at silicon in weak alkaline solutions

P. N. Bartlett, Lap-Yan Chung and P. Moore — 1273 Conducting polymer films. Attachment of pyrrole groups to open-chain nitrogen-containing ligands and related species

K. Takahashi, K. Yoshida and M. Iwaki — 1279 Chemical and electrochemical properties of Li^+- and K^+-implanted glassy carbons

G. Kreysa and G. F. Darbyshire — 1283 Theoretical consideration of electrochemical heat pump systems

C. Mousty et G. Quarin — 1291 Adsorption de l'adenosine à l'électrode de mercure—II. Etudes thermodynamique et cinétique de la formation de la phase condensée aux densités de charges fortement négatives

E. Trollund, P. Chartier et J. L. Gautier — 1303 Répartition cationique et comportement électrochimique des oxydes mixtes $Cu_xNi_{0.6-0.2x}Mn_{2.4-0.8x}O_4$

B. Lopez Ruiz, G. Quarin, P. Boulanger, J.-C. Vire et G. J. Patriarche — 1311 Comportement de particules de flumazénil et de quinine adsorbées à l'électrode de mercure en technique de saut potentiostatique

Book Reviews

J. Koryta — 1319 *Electrochemical Detection Techniques in the Applied Biosciences.* Edited by G. A. Junter

J. W. Schultze — 1319 *Semiconductor Electrodes (Studies in Physical and Theoretical Chemistry 55).* By H. O. Finklea

1321 Electrochemical Calendar

SEPTEMBER

i ISE pages

I. González, J. G. Ibáñez, M. A. Cárdenas and A. Rojas-Hernández — 1325 The electrochemical behavior of the Fe(II)–Fe(III) system in the presence of EDTA at pH 4.3

C. Alonso, R. C. Salvarezza, J. M. Vara and A. J. Arvia — 1331 The surface diffusion of gold atoms on gold electrodes in acid solution and its dependence on the presence of foreign adsorbates

M. Pérez Sánchez, M. Barrera, S. González, R. M. Souto, R. C. Salvarezza and A. J. Arvia — 1337 Electrochemical behaviour of copper in aqueous moderate alkaline media, containing sodium carbonate and bicarbonate, and sodium perchlorate

R. Holze, T. Łuczak and M. Bełtowska-Brzezinska — 1345 A comparative study of the adsorption and electrooxidation of isomer butanediols on a gold electrode

H. H. Goossens, I. E. Vermeir, F. Vanden Kerchove and W. P. Gomes — 1351 The influence of the band edge position upon the reduction kinetics and the etching behaviour at the GaP–$Fe(CN)_6^{3-}$ interface

T. J. VANDERNOOT and D. J. SCHIFFRIN	1359	Non-linear regression of impedance data for ion transfer across liquid–liquid interfaces
B. DELANGHE, S. TELLIER and M. ASTRUC	1369	Mass transfer to a carbon or graphite felt electrode
J. WANG, T. MARTINEZ and D. DARNALL	1377	Uptake of redox couples by algae immobilized on porous cellulosic films
J. LECOEUR, J. P. BELLIER and C. KOEHLER	1383	Comparison of crystallographic anisotropy effects on potential of zero charge and electronic work function for gold {111}, {311}, {110} and {210} orientations
J. SOKOŁOWSKI, J. M. CZAJKOWSKI and M. TUROWSKA	1393	Zero charge potential measurement of solid electrodes by inversion immersion method
T. C. SIMPSON and R. R. DURAND JR	1399	Reactivity of carbon dioxide with quinones
T. C. SIMPSON and R. R. DURAND JR	1405	Reaction of the anion radical of phenazine with carbon dioxide
N. GIORDANO, E. PASSALACQUA, V. RECUPERO, M. VIVALDI, E. J. TAYLOR and G. WILEMSKI	1411	An investigation of the effects of electrode preparation parameters on the performance of phosphoric acid fuel cell cathodes
L. NYIKOS, T. PAJKOSSY, A. P. BOROSY and S. A. MARTEMYANOV	1423	Diffusion to fractal surfaces—IV. The case of the rotating disc electrode of fractal surface
L. DOUBOVA, M. FABRIZIO, G. MENGOLI and S. VALCHER	1425	Electrocatalytic oxidation of hydrazine in acid media on polyaniline-filmed vitreous carbon
V. M. M. LOBO and J. L. QUARESMA	1433	Diffusion coefficients in aqueous solutions of cadmium chloride at 298 K
O. A. ALBANI, L. M. GASSA, J. O. ZERBINO, J. R. VILCHE and A. J. ARVIA	1437	Comparative study of the passivity and the breakdown of passivity of polycrystalline iron in different alkaline solutions
T. P. DIRKSE	1445	A potentiostatic study of the electrolytic formation of AgO
RONGZHONG JIANG and SHAOJUN DONG	1451	Application of linear rotation-scan *rrde* theory in electrochemical measurement
V. E. KAZARINOV, V. N. ANDREEV, M. A. SPITSYN and A. P. MAYOROV	1459	Electrooxidation of formic acid at a platinum electrode modified with aniline or polyaniline
J. J. ROSENBERG	1465	Influence of the organic cation on the total electrical conductivity in silver iodide based systems—I. The application of Owens' rules
J. J. ROSENBERG	1473	Influence of the organic cation on the total electrical conductivity in silver iodide based systems—II. Statistical determination of the ideal cationic volume of substituted onium cations
	1477	Erratum
	1479	Electrochemical Calendar

OCTOBER

	i	ISE pages
Plenary Lectures		
J. R. MACDONALD	1483	Impedance spectroscopy: old problems and new developments
Z. STOYNOV	1493	Impedance modelling and data processing: structural and parametrical estimation
K. JÜTTNER	1501	Electrochemical impedance spectroscopy (EIS) of corrosion processes on inhomogeneous surfaces
D. D. MACDONALD	1509	Review of mechanistic analysis by electrochemical impedance spectroscopy

D. SCHUHMANN 1527 Progress since the 1960s in the treatment of complex mechanisms and concentration overpotential for metal electrodes

F. MANSFELD 1533 Electrochemical impedance spectroscopy (EIS) as a new tool for investigating methods of corrosion protection

J.-N. CHAZALVIEL 1545 Impedance studies at semiconductor electrodes: classical and more exotic techniques

C. GABRIELLI, M. KEDDAM and H. TAKENOUTI 1553 New trends in the investigation of electrochemical systems by impedance techniques: multi-transfer function analysis

Keynote Lectures

M. URQUIDI-MACDONALD, S. REAL and D. D. MACDONALD 1559 Applications of Kramers–Kronig transforms in the analysis of electrochemical impedance data—III. Stability and linearity

L. NYIKOS and T. PAJKOSSY 1567 Electrochemistry at fractal interfaces: the coupling of *ac* and *dc* behaviour at irregular electrodes

F. WENGER and J. GALLAND 1573 Analysis of local corrosion of large metallic structures or reinforced concrete structures by electrochemical impedance spectroscopy (EIS)

I. D. RAISTRICK 1579 Impedance studies of porous electrodes

R. WIART 1587 Elementary steps of electrodeposition analysed by means of impedance spectroscopy

A. K. JONSCHER 1595 Admittance spectroscopy of systems showing Low-Frequency Dispersion

O. E. BARCIA and O. R. MATTOS 1601 Reaction model simulating the role of sulphate and chloride in anodic dissolution of iron

R. P. BUCK 1609 Impedances of membrane systems with metal and/or ionic contacts

R. OLTRA and M. KEDDAM 1619 Application of EIS to localized corrosion

M. TOMKIEWICZ 1631 Impedance spectroscopy of rectifying semiconductor–electrolyte interfaces

C. DESLOUIS and B. TRIBOLLET 1637 Flow modulation technique and EHD impedance: a tool for electrode processes and hydrodynamic studies

Š. LÁNYI 1649 Solid state specific effects in the *ac* response of $RbAg_4I_5$/graphite cells

L. M. PETER, J. LI, R. PEAT, H. J. LEWERENZ and J. STUMPER 1657 Frequency response analysis of intensity modulated photocurrents at semiconductor electrodes

M. M. MUSIANI 1665 Characterization of electroactive polymer layers by electrochemical impedance spectroscopy (EIS)

1671 Electrochemical Calendar

NOVEMBER / DECEMBER

i **ISE pages**

1675 **List of Review Articles**

Review Article

H. GERISCHER 1677 **The impact of semiconductors on the concepts of electrochemistry**

M. ZELIĆ and M. LOVRIĆ 1701 **Bromide induced adsorption of lead ions on mercury electrodes**

A. IWASE and K. TANAKA 1707 **Synthesis and electrochemistry of acetylacetonatolanthanide(III)-phthalocyaninates**

A. IWASE, Y. ARAKI and R. TAKAHASHI 1713 **Electrochemistry of lanthanoid(III) complexes in dimethyl sulfoxide in the presence of *n*-Bu_4N(acac) and *n*-Bu_4N(dibm)**

J. C. NELSON and R. A. ORIANI 1719 **Current transients caused by potential jumps applied to passivating films on nickel**

A. Savall, R. Abdelhedi, S. Dalbéra et M. L. Bouguerra 1727 Réduction électrochimique du trichloro-1,1,2-trifluoroéthane: effet catalytique de l'ion ammonium

J. Kowalski and J. Płoszyńska 1739 Electrochemical acetoxylation of 2-methylnaphthalene

A. R. Despić, J. Radošević, P. Dabić and M. Kliškić 1743 Abnormal yields of hydrogen and the mechanism of its evolution during cathodic polarization of aluminium

A. R. Despić, D. M. Dražić, J. Balakšina, Lj. Gajić-Krstajić and R. M. Stevanović 1747 Investigation of oxidation potentials of substances accumulated during cathodic polarization of aluminium

A. Corradini, A. M. Marinangeli and M. Mastragostino 1757 ITO as counter-electrode in a polymer based electrochromic device

M. Chemla and I. Okada 1761 Ionic mobilities of monovalent cations in molten salt mixtures

Y. Hori and A. Murata 1777 Electrochemical evidence of intermediate formation of adsorbed CO in cathodic reduction of CO_2 at a nickel electrode

C. Arbizzani, M. Mastragostino, T. Hamaide and A. Guyot 1781 An all solid-state polymer–polymer electrolyte–lithium rechargeable battery for room temperature applications

P. A. Mosier-Boss, S. Szpak, J. J. Smith and R. J. Nowak 1787 Effect of electrode material on $SOCl_2$ reduction

R. L. Deutscher and S. Fletcher 1797 Magic sampling—a digital sampling strategy that discriminates against mains interference (noise)

A. Anastopoulos and I. Moumtzis 1805 On the mechanism of Cd^{2+} transfer in methanol across saturated organic monolayers

M. Reuter and K. E. Heusler 1809 Statistical investigations of the pitting of passive iron

G. Zotti, G. Schiavon and N. Comisso 1815 The charge–potential relationship in polyconjugated conducting polymers. Determination of E^0 and N-values for polypyrrole and polythiophene

L. D. Burke and K. J. O'Dwyer 1821 Application of the hydrous oxide mediation model of electrocatalysis to reactions at noble metal anodes in base—I. Pt, Pd and Rh

L. D. Burke and K. J. O'Dwyer 1829 Application of the hydrous oxide mediation model of electrocatalysis to reactions at noble metal anodes in base—II. Au, Ru and Ir

A. M. Waller and R. G. Compton 1837 The photoelectrochemical reduction of pyrene in acetonitrile solution

F. Beck, M. Oberst and R. Jansen 1841 On the mechanism of the filmforming electropolymerization of pyrrole in acetonitrile with water

A. K. Sleigh and W. R. McKinnon 1849 A study of relaxation processes in Li–MnO_2 cells

B. Dakova, A. Walcarius, L. Lamberts and M. Evers 1855 Electrochemical behaviour of selenoorganic compounds—I. Dibenzo (b,d) selenopyrane and related compounds

W. Jin, J. Wang, X. Zhang and S. Wang 1861 On the mechanism of the electrochemical reduction of the La(III)–alizarin complexone complex with and without F^- in $(CH_2)_6N_4$–HNO_3

M. Umezawa, M. Takeda, H. Ichikawa, T. Ishikawa, T. Koizumi, T. Fuchigami and T. Nonaka 1867 Electroreductive polymerization of organodichioromonosilanes

T. Chierchie and A. Milchev 1873 Electrochemical nucleation of silver on platinum at a controlled amount of the oxygen containing surface species

A. Melo and J. L. Gautier 1879 Electroreduction of the group VI metal hexacarbonyls in liquid ammonia

J. Bessiere and F. Bazine 1885 Fluoride ion reactions in the acetonitrile–10% (mole) water medium. pF^- scale and potential–pF^- diagrams relative to the silver, copper and hydrogen redox systems

H. Laig-Hörstebrock	1889	Kinetics of a manganese dioxide electrode in aqueous and non-aqueous electrolytes
S. Hornkjøl and T. Hurlen	1897	Anodic growth of passive films on zirconium and hafnium
E. R. Gonzalez, H. Scatena Jr, A. J. Motheo and L. A. Avaca	1901	The characterization of the $Hg–H_3PO_4$ interface from studies of adsorption of dimethylsulfoxide
R. Hazard, A. Tallec, R. Tardivel, J. J. Bourguignon and C. G. Wermuth	1907	Some observations on the electrochemical reduction of pyridazin-3-ones
W. Wilhelmsen and A. P. Grande	1913	Electrochemical and SIMS studies of cathodically formed hydride layers on titanium
L. Vračar and B. E. Conway	1919	Electroactive intermediate states in anodic O_2 evolution at Ni–Mo-containing glassy metals
V. Glezer, B. Turovska, J. Stradins and J. Freimanis	1933	Electrochemical reduction of *N*-aryl- and *N*-arylsulphonylbenzoquinonemonoimines in acetonitrile—I. Electroreduction mechanism and effects of proton donors on electrochemical process
S. K. Poznyak and A. I. Kulak	1941	Photoelectrochemical properties of bismuth oxyhalide films
D. D. Macdonald and S. I. Smedley	1949	An electrochemical impedance analysis of passive films on nickel(111) in phosphate buffer solutions
G. Kokkinidis, K. Hasiotis and D. Sazou	1957	Use of Pt/M(UPD) (M = Pb, Tl, Bi) modified electrodes to the catalytic electroreduction of heterocyclic nitro compounds—I. 3-Nitro-1H-1,2,4-triazole
E. Wang and Y. Liu	1965	Ion transfer with the coupled chemical reactions at the water–nitrobenzene interface
C. Zhong and K. Doblhofer	1971	Polypyrrole-based electrode coatings switchable electrochemically between the anion- and cation-exchanger states
M. Hampel, E. W. Grabner and R. Schneider	1977	Photoelectrochemical study on thin-film electrodes of the high-temperature superconductor Y–Ba–Cu–O
J. Ludvík and J. Volke	1983	Non-uniform current density distribution at a *rde*. Observation by means of photographing electrochemiluminescence (Preliminary Note)
Short Communications		
B. A. El-Sayed, M. M. El-Desoky, S. M. Shaaban and M. B. Sayed	1987	Electrical and spectral studies of solid organic semiconductors—I. Structural interpretation of promoted conductivity of salicylaldazine
R. N. O'Brien	1989	A new instrument for measuring stress in an electrodeposit
Book Reviews		
D. Pletcher	1993	*Synthetic Organic Electrochemistry*. By A. J. Fry
R. N. Parkins	1993	*Basic Corrosion Technology for Scientists and Engineers*. By E. Mattsson
	1995	Erratum
	1997	Electrochemical Calendar